Dec. 23, 1947. J. P. McHUGH 2,433,234

DEVICE FOR ANCHORING CABLES AND THE LIKE

Filed Aug. 28, 1944 2 Sheets-Sheet 1

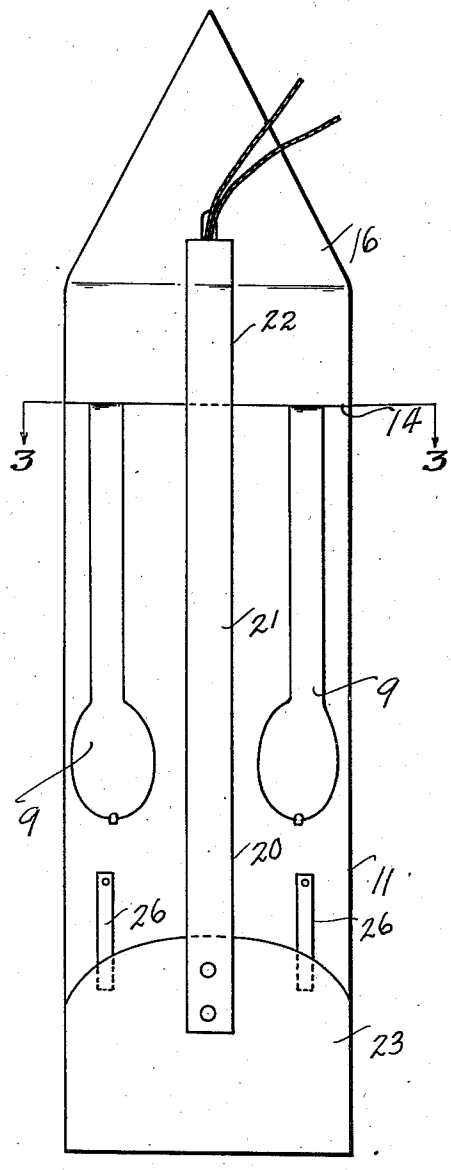


Fig. 1

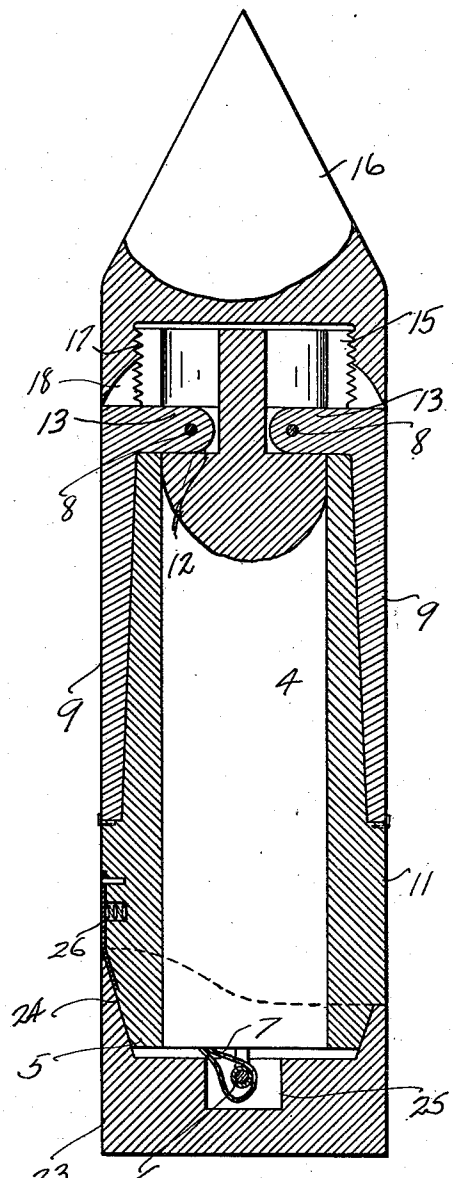


Fig. 2

INVENTOR.
James P. McHugh
BY Edward C. Healy
ATTORNEY

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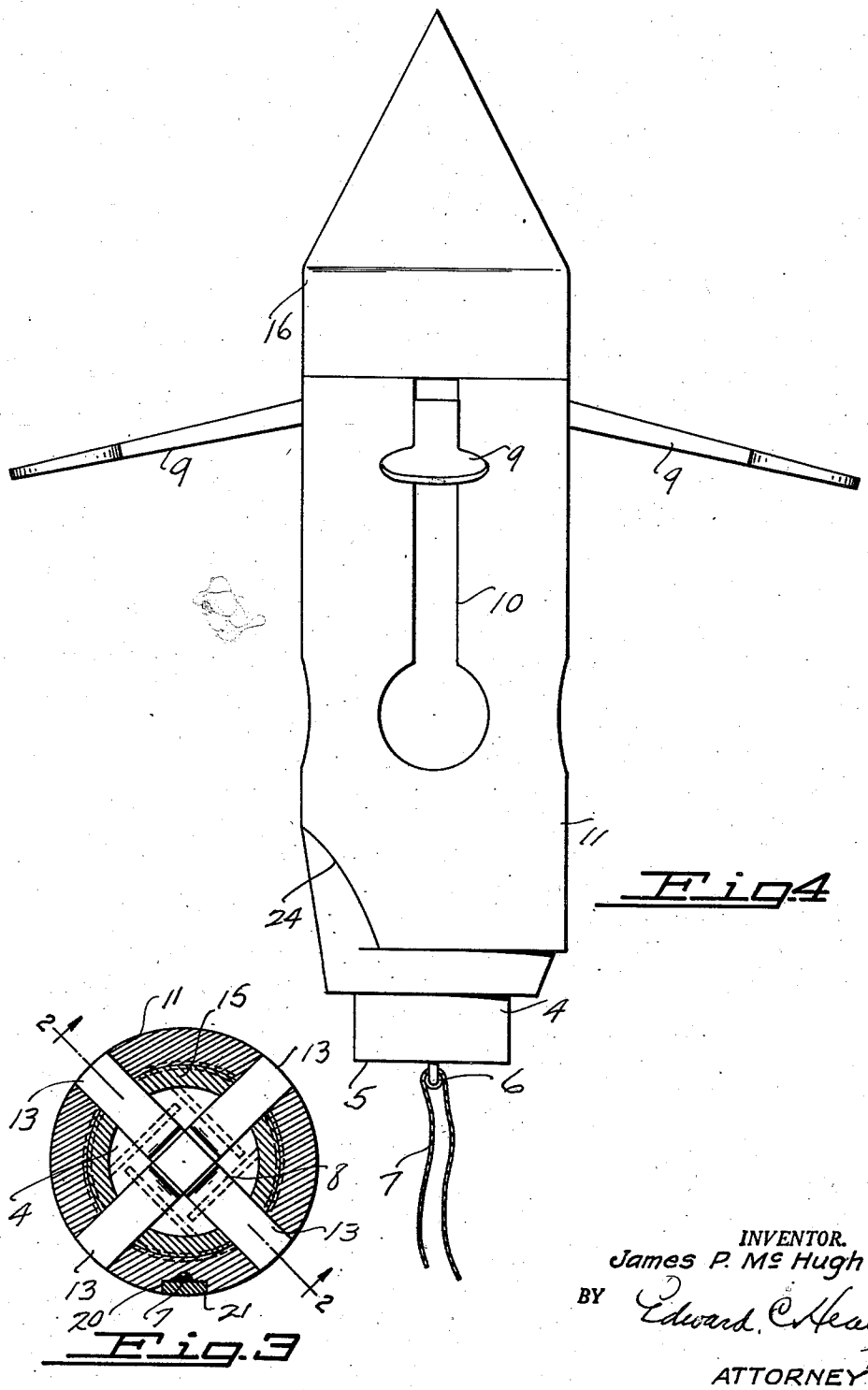


Fig. 4

Fig. 3

INVENTOR.
James P. Mc Hugh
BY Edward C. Healy
ATTORNEY

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DEVICE FOR ANCHORING CABLES AND THE LIKE

James P. McHugh, San Francisco, Calif.

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4 Claims. (Cl. 102—88)

1

This invention relates to means for anchoring cables and the like and has particular reference to a device simulating in form a projectile and capable of being fired from a compulsion means to a remote point, which device due to its construction is capable of penetrating the ground.

A further object of the invention is to equip the device with means in the form of blades or fins that will prevent displacement of the device from its anchored position.

An additional object of the invention is the provision of means for releasing an endless line from a nested position within the body of the device, which line is remotely connected to a reel whereby articles can be transferred to and from the reel to a position or a plane where the device is anchored.

A further object of the invention is the production of a device of the character described that is economical to manufacture, simple in construction, strong, durable and positive in operation.

Referring to the drawings,

Fig. 1 is a side elevational view of the device constructed in accordance with my invention;

Fig. 2 is a longitudinal section through the same, the view being taken on the line 2—2 of Fig. 3, and looking in the direction of the arrows;

Fig. 3 is a transverse section through the nose portion, and disclosing to advantage the pivotal arrangement of the blades the view being taken on the line 3—3 of Fig. 1; and,

Fig. 4 is a side elevation of the device with the cap removed and disclosing the fins in extended position.

In the accompanying drawings wherein for the purpose of illustration is shown the preferred embodiment of the invention the numeral 4 designates a cylindrical core having a base 5 to which is secured a roller 6 that carries thereon an endless cord, chain, or cable 7, the purpose of which will be later described.

The upper end of the core 4 has pivotally secured thereto as at 8 a plurality of blades or fins 9, preferably four in number that taper inwardly and are received in corresponding tapered grooves 10, formed in spaced relation on the periphery of an outer tubular casing 11 within which the core is movably fitted.

It will be noted that the upper end of the casing is cut away as at 12 to allow the pivoted extensions 13 of the blades to rest therein. The upper extremity of the casing is reduced to provide an annular shoulder 14 and spaced external threaded segments 15. A nose portion 16 internally threaded as at 17 is threadedly secured to the segments and rests on the shoulder 14. Grooves 18 formed in the nose portion permit unrestricted freedom of movement of the pivoted extension of the blades when they assume the position of Fig. 4 of the drawing.

2

Formed in the outer wall of the casing and continuing throughout the length of the same is an elongated tapered groove 20 that receives therein a cap retaining strip 21. The upper end of the strip is receivable in an external groove 22 formed in the nose 16. The strip has been designated as a cap retaining strip because it functions to detachably retain a cap 23 on the base of the tubular casing.

This cap, it will be noted, is partially shallow and internally tapered as at 24. Likewise, as disclosed to advantage in Fig. 2, the said cap is equipped with a recess 25 in which the cord retaining roller is positioned. I propose to employ spaced spring clips 26, each of which is secured at one end to the outer wall of the tubular casing while the opposite end extends under the cap. These spring controlled strips dislodge the cap after the device leaves the compulsion means.

In the operation of the device the same is placed as a unit in a compulsion means and when fired to a remote point it will sink or lodge in the ground. During its course of travel the detachable cap will be released from the casing, and the actuation of the cord or cable 7, as by the application of tension force thereto, after the device enters the ground will cause the core to slide rearwardly in the casing thus positioning the blades at substantially right angle to the casing and effecting a positive retention of the device in the ground against danger of displacement.

It is obvious that articles can be conveniently conveyed on the endless cable to a remotely positioned reel and to and from the anchored position of the device. The object of the device is to transfer articles from the end of the cable to a distant point from the anchorage, when there is no other means of reaching a place of anchorage, such as fording small rivers and approaching inaccessible places.

From the foregoing description considered in connection with the accompanying drawing, it will be obvious that I have produced a highly serviceable anchoring device that will readily accomplish the objects of the invention.

It is to be understood that the form of the invention herewith shown and described is to be taken as a preferred example of the same and

that various changes relative to the shape, size, material and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claims.

Having thus described my invention, I claim:

1. A device of the character described embodying in its construction a cylindrical core, a tubular casing having a threaded upper portion and a tapered base, a nose portion threadedly secured to the upper portion of said casing, a cap detachably secured to the base thereof, said tubular casing surrounding said core, a plurality of expansible blades pivotally secured to the upper portion of said core and positioned behind said nose portion and extending exteriorly of the casing through openings provided therein, and means housed within said cap and secured to said core and extending therefrom externally and longitudinally of said casing for expanding said blades when said device penetrates the ground.

2. A device of the character described comprising a core member, a tubular casing surrounding said core and having spaced grooves formed in the outer periphery thereof, a pluralty of blades pivotally secured to the upper portion of said core and normally positioned within the grooves of said casing, a nose portion threadedly secured to said casing and capable of penetrating the ground when the device is fired from a mortar or the like, a cap detachably secured to said casing and being detachable from said casing when said device is in flight, said cap being provided with a recess for housing therein a portion of an endless cord attached to said core and extending from said base externally of the casing and positioned longitudinally of said casing whereby tension force applied to said cord will move the core longitudinally of the casing to expand the blades outwardly.

3. A device of the character described comprising a casing having a central longitudinal bore extending therethrough, a core member within the bore of the casing, a plurality of blade members having angularly disposed arms pivotally attached to the core member at the forward end thereof, a nose member threadedly attached to the casing at the forward end thereof, said angularly disposed arms extending through apertures provided in the casing with the blade members disposed exteriorly of the casing in close

proximity to the exterior surface thereof, a closure cap detachably secured to the rear end of to the rear end of the core member and extendthe casing and flexible strand means attached ing exteriorly of the casing and operable when the cap is removed and tension force is applied to the strand means, to move the core rearwardly of the casing to protect the blades radially outwardly of the casing.

4. A device of the character described comprising a casing having a central longitudinal bore extending therethrough, a core member within the bore of the casing, a plurality of blade members having angularly disposed arms pivotally attached to the core member at the forward end thereof, a nose member threadedly attached to the casing at the forward end thereof, said angularly disposed arms extending through apertures provided in the casing with the blade members disposed exteriorly of the casing in close proximity to the exterior surface thereof, a closure cap detachably secured to the rear end of the casing and flexible strand means attached to the rear end of the core member and extending exteriorly of the casing, a longitudinally extending groove in the exterior wall of the casing receiving said flexible strand means, and a closure strip for said groove carried by said cap to temporarily secure the cap in position and to protect said flexible strand, said strand being operable when the cap is removed and tension force applied to the strand to move the core rearwardly within the casing to project the blades radially outwardly of the casing.

JAMES P. McHUGH.

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